Adjusting CANCUN FX Settings Using SysEx

The Turtle Beach Cancun FX MIDI daughterboard has default reverb and chorus settings. You can create customized settings by sending System Exclusive ("SysEx") messages to the Cancun from a MIDI sequencing program such as Voyetra Digital Orchestrator Pro.

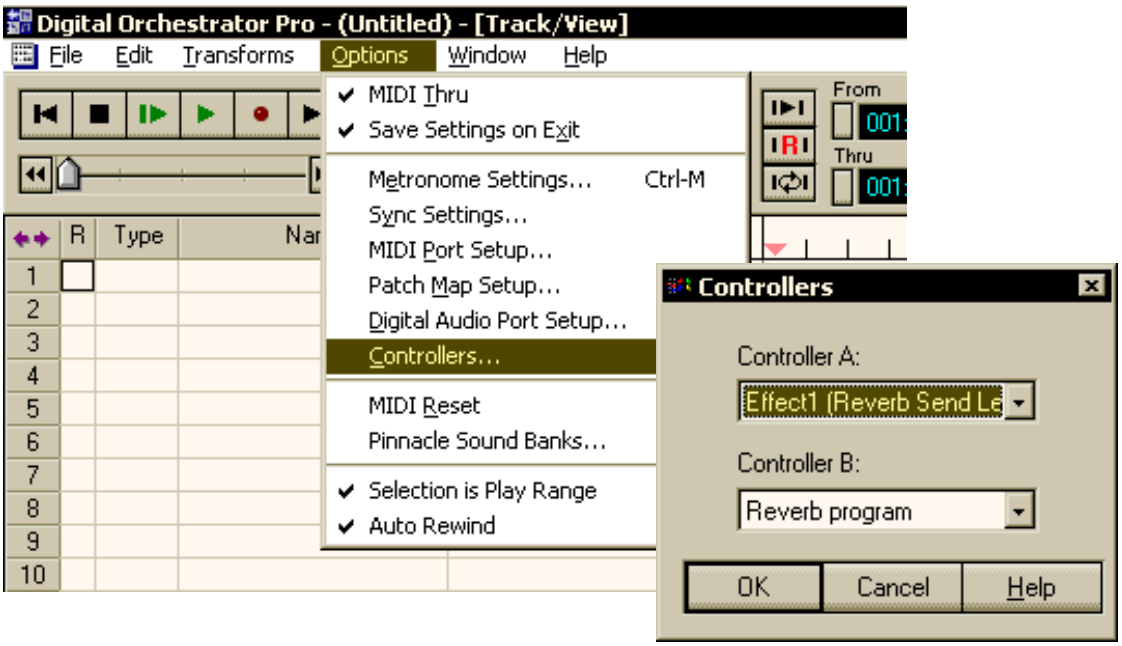
- This file does not contain all possible SYSEX commands for the Cancun, only some commonly used ones for your MIDI composing pleasure…
- Please note that the Cancun has only one reverb and one chorus processor for the entire unit. There are eight presets for each of these effects processors.

REVERB SETTINGS

CHANGE REVERB TYPE – MIDI Controller 80

0 = Room 1 **1 = Room 2** **2 = Room 3** **3 = Hall 1**	**4 = Hall 2** **5 = Plate** **6 = Delay** **7 = Pan Delay**

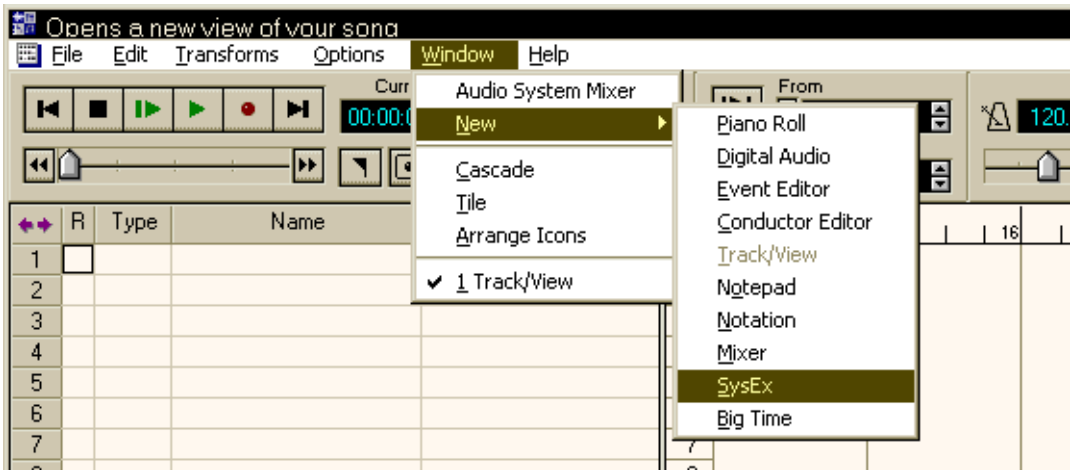
This can be controlled directly from within Digital Orchestrator Pro, from the Options | Controllers menu. For **Controller A**, choose Controller 91, labeled **Effect 1 (Reverb Send Level)**. Then choose Controller 80, labeled **Reverb Program**, for **Controller B**.



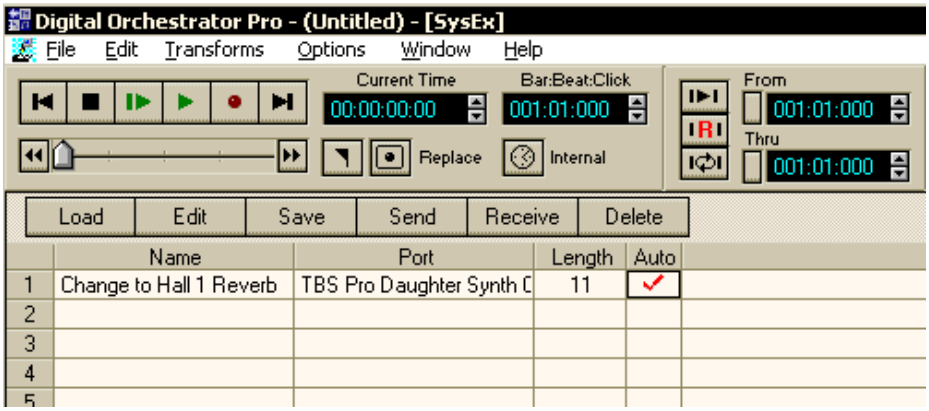
These settings can be manipulated with more precision by using System Exclusive (SysEx) messages. Please note that the numbers you enter in SysEx commands must be in Hexadecimal. Please take a look at the Decimal to Hexadecimal Converter included in this document.

You enter the SysEx data in DOP's **[SysEx]** window;

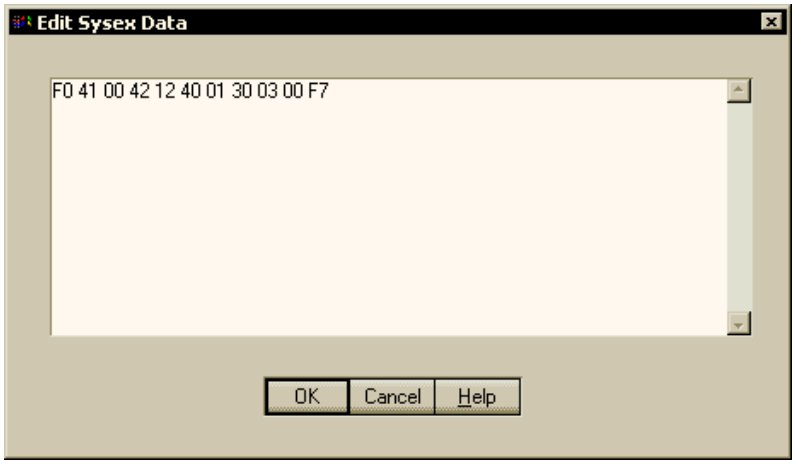
- Go to **Window | New | SysEx**



- Choose a "track" and put in a description of the effect you are making in the **Name** column. Select your synth in the **Port** column (the MPU-401 or other external MIDI port that your Cancun is installed on).



- Click on the **Edit** button. The **Edit SysEx Data** window will open. Enter the SysEx data string you wish to assign.



Try this string (as shown in the illustration above):

F0 41 00 42 12 40 01 30 nn 00 F7

Put in one of the following sets of numbers for "**nn**" and you will get these effects presets:

00 = Room 1 **01 = Room 2** **02 = Room 3** **03 = Hall 1**	**04 = Hall 2** **05 = Plate** **06 = Delay** **07 = Pan Delay**

Note that these are **Hexadecimal** numbers; they are not the normal **Decimal** numbers we use every day. All numbers entered into these SysEx messages must be in Hexadecimal.

Please take a look at the **Decimal to Hexadecimal Conversion Chart**. You may want to print the Conversion Chart for easy reference.

Now you can control particular aspects of the reverb by changing these numbers in the SysEx string:

Reverb Master Level: **F0 41 00 42 12 40 01 33 nn 00 F7**	If **nn** = 00 = dry 127 = most wet signal 64 = default setting (in Hexadecimal)

Reverb Decay Time: **F0 41 00 42 12 40 01 34 nn 00 F7**	If **nn** = 00 = shortest decay 127 = longest decay (in Hexadecimal)

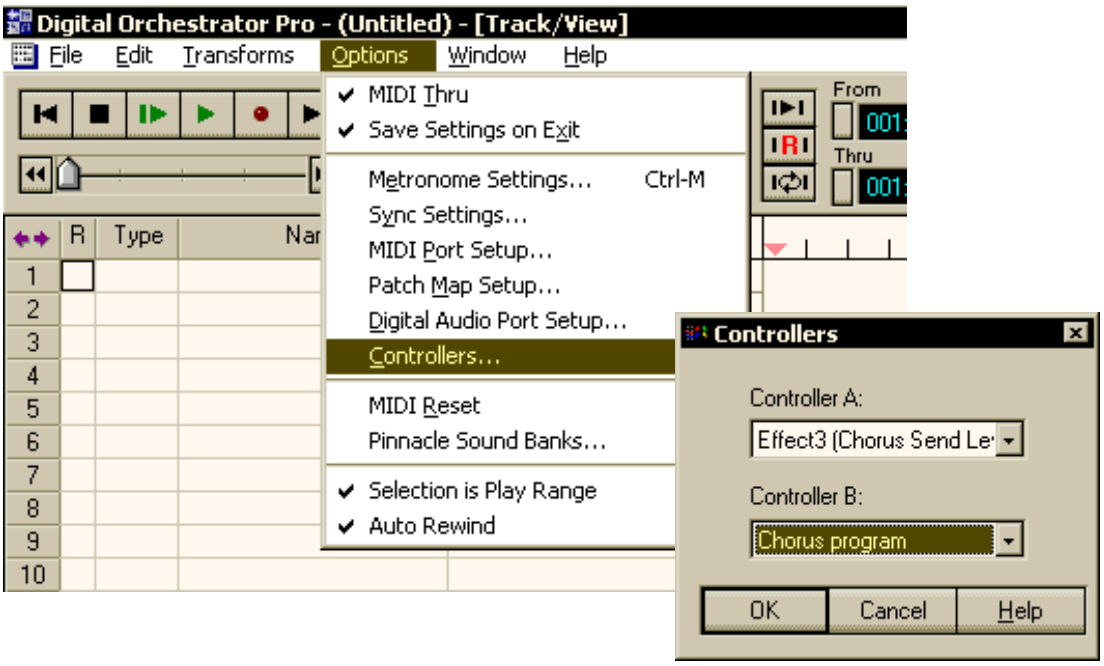
Reverb Delay Feedback (only applies to Reverb effects numbers 06 and 07, the delay presets): **F0 41 00 42 12 40 01 35 nn 00 F7**	If **nn** = 00 = least feedback 127 = most feedback (in Hexadecimal)

CHORUS SETTINGS

CHANGE CHORUS TYPE – MIDI Controller 81

0 = Chorus 1 **1 = Chorus 2** **2 = Chorus 3** **3 = Chorus 4**	**4 = Feedback** **5 = Flanger** **6 = Short Delay** **7 = Feedback Delay**

Once again, these settings can be controlled directly from from the Options | Controllers menu in DOP. This time, choose Controller 93 for **Controller A**, labeled **Effect 3 (Chorus Send Level)** and choose Controller 81, labeled **Chorus Program**, for **Controller B**.



Other Chorus effect parameters can be adjusted by modifying the SysEx strings sent to the Cancun.

Chorus Level: **F0 41 00 42 12 40 01 34 nn 00 F7**	If **nn** = 00 = least effect 127 = most effect 64 = default (in Hexadecimal)

Chorus Feedback: **F0 41 00 42 12 40 01 3B nn 00 F7**	If **nn** = 00 = least effect 127 = most effect (in Hexadecimal)

Chorus Rate: **F0 41 00 42 12 40 01 3C nn 00 F7**	If **nn** = 00 = least effect 127 = most effect (in Hexadecimal)

Chorus Depth: **F0 41 00 42 12 40 01 3E nn 00 F7**	If **nn** = 00 = least effect 127 = most effect (in Hexadecimal)

SPATIALIZER SETTINGS

Here's a cool one – the Spatializer Effect. You can add a 3D sound effect to your MIDI arrangements.

Spatializer Depth: **F0 B0 63 37 B0 62 20 B0 06 nn F7**	If **nn** = 00 = no effect (default) 127 = most effect (in Hexadecimal)

DECIMAL → HEXADECIMAL
Conversion Table

DEC → HEX	DEC → HEX	DEC → HEX
00 = 00	43 = 2B	86 = 56
01 = 01	44 = 2C	87 = 57
02 = 02	45 = 2D	88 = 58
03 = 03	46 = 2E	89 = 59
04 = 04	47 = 2F	90 = 5A
05 = 05	48 = 30	91 = 5B
06 = 06	49 = 31	92 = 5C
07 = 07	50 = 32	93 = 5D
08 = 08	51 = 33	94 = 5E
09 = 09	52 = 34	95 = 5F
10 = 0A	53 = 35	96 = 60
11 = 0B	54 = 36	97 = 61
12 = 0C	55 = 37	98 = 62
13 = 0D	56 = 38	99 = 63
14 = 0E	57 = 39	100 = 64
15 = 0F	58 = 3A	101 = 65
16 = 10	59 = 3B	102 = 66
17 = 11	60 = 3C	103 = 67
18 = 12	61 = 3D	104 = 68
19 = 13	62 = 3E	105 = 69
20 = 14	63 = 3F	106 = 6A
21 = 15	64 = 40	107 = 6B
22 = 16	65 = 41	108 = 6C
23 = 17	66 = 42	109 = 6D
24 = 18	67 = 43	110 = 6E
25 = 19	68 = 44	111 = 6F
26 = 1A	69 = 45	112 = 70
27 = 1B	70 = 46	113 = 71
28 = 1C	71 = 47	114 = 72
29 = 1D	72 = 48	115 = 73
30 = 1E	73 = 49	116 = 74
31 = 1F	74 = 4A	117 = 75
32 = 20	75 = 4B	118 = 76
33 = 21	76 = 4C	119 = 77
34 = 22	77 = 4D	120 = 78
35 = 23	78 = 4E	121 = 79
36 = 24	79 = 4F	122 = 7A
37 = 25	80 = 50	123 = 7B
38 = 26	81 = 51	124 = 7C
39 = 27	82 = 52	125 = 7D
40 = 28	83 = 53	126 = 7E
41 = 29	84 = 54	127 = 7F
42 = 2A	85 = 55	

We hope you found this document useful. There are more detailed SysEx documents on our web site at http://www.tbeach.com, in the FAQ area. Visit us anytime!